Autopsy Diagnoses of Malignant Neoplasms

How Often Are Clinical Diagnoses Incorrect?

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Context.—Autopsy often reveals new diagnoses of malignant neoplasms, but as technological advances to improve diagnosis during life have improved, autopsy rates have declined dramatically.

Objective.—To determine if there is still a high discordance rate between clinical and autopsy diagnoses of malignant neoplasms despite increasing technological advances in diagnostic methods.

Design and Setting.—A 10-year retrospective study (1986-1995) of all autopsies performed at the Medical Center of Louisiana at New Orleans.

Participants.—All patients autopsied, excluding preterm fetuses, at the Medical Center of Louisiana at New Orleans, by both Tulane and Louisiana State University Schools of Medicine in which consent was obtained or authorization given from the Orleans Parish Coroner's Office.

Main Outcome Measures.—Discordance between clinical and autopsy diagnoses of malignant neoplasms.

Results.—A total of 1625 cases were reviewed of which 520 preterm fetuses were excluded. Of the remaining 1105 cases, 654 were male and 451 were female. The mean age was 48.3 years (range, 1-98 years). A total of 433 neoplasms were diagnosed, 250 of which were malignant. One hundred eleven malignant neoplasms in 100 patients had been either undiagnosed or misdiagnosed, and in 57 patients, the immediate cause of death could be attributed to the malignant neoplasm. The discordance between clinical and autopsy diagnoses of malignant neoplasms in this study is 44%, which is similar to previously reported studies.

Conclusion.—The discordance rate between clinical and autopsy diagnoses of malignant neoplasms is large and confirms the importance of the postmortem examination.

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THERE IS much debate among clinicians as to the usefulness of autopsies. One argument is that with advancing technology, autopsy is an unnecessary diagnostic tool. This point of view has contributed to the decline in postmortem examinations during the past several decades. Autopsy rates have declined from an estimated 50% in the 1960s to an average of 10% today in teaching hospitals and as low as 5% in community-based hospitals.[1] Despite technological advances, the number of inaccurate clinical diagnoses (attributed to both malignancies and all other causes) remains alarmingly high.[2-10] The last large-scale study[2] comparing clinical and autopsy diagnoses of malignant tumors reported in the United States was in 1972. Several more recent studies have been conducted in other areas of the world.[3-9] Of the 2 studies conducted in the United States, an incorrect diagnosis of malignant tumors was shown in 36.5% of cases studied by Wells[2] in 1923 and 41% of cases studied by Bauer and Robbins[3] in 1972. These earlier findings are similar to those found in the present study.

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METHODS

To compare more recent data with data of the past, a 10-year retrospective study was conducted at the Medical Center of Louisiana at New Orleans (MCLNO). The MCLNO (formerly Charity Hospital) is a large teaching hospital encompassing 2 medical schools, Louisiana State University and Tulane University Schools of Medicine. Our objective was to evaluate whether there was a continuing need for postmortem examination despite advances in diagnostic methods.

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A 10-year retrospective study examining autopsy protocols from autopsies performed at MCLNO from 1986 through 1995 was conducted. Autopsies were performed by residents under the direct supervision of attending pathologists. All neoplasms were coded using the SNOMED international coding system.[11] Both a morphological and topographical code were given to each neoplasm. A database was established using SAS software[12] with demographic data, including autopsy and hospital identification numbers, age, race, sex, hospital service, dates of admittance, death, and autopsy examination and diagnoses using SNOMED codes. All demographic data were obtained from autopsy protocols. One thousand six hundred twenty-five autopsy protocols were reviewed and entered into the database. Of the 1625 cases, 520 (32%) were fetuses, subsequently excluded. The remaining 1105 cases (68%)

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